**Authentication Plan Examples[[1]](#footnote-1)**

**Example #1**

**AUTHENTICATION OF KEY BIOLOGICAL AND/OR CHEMICAL RESOURCES**

**Chemicals**
All acquired compounds and reagents will be authenticated for both identity and purity using standard techniques and methods for the characterization of small molecules according to the guidelines of the American Chemical Society (<http://pubs.acs.org/page/jacsat/submission/authors.html>). Experimental techniques employed routinely in the lab for the authentication of chemicals include NMR, EPR, and UV-visible absorption spectroscopy, mass spectrometry, X-ray diffraction analysis, cyclic voltammetry, magnetometry, and combustion analysis. This information will be included in peer-reviewed publications on the project, along with details on commercial sources for precursors and any necessary purification, handling and storage of reagents and products (e.g., under an inert atmosphere).

**Plasmid DNA**
Plasmid NNNN-NNN for the expression of NNNN in mammalian cells was obtained from Addgene (#NNNN) and validated through Sanger sequencing.

**Antibodies**
Antibodies for proteins associated with NNNNN were obtained from commercial manufacturers providing hybridoma clone identification, lot number and appropriate references. The specificity of the antibodies employed in this study will be authenticated by immunoblot analysis (including knockdown samples when possible) and appropriate controls are included in every experiment. In addition, we will monitor the Antibody Registry database (<http://antibodyregistry.org/>) to be aware of any issues observed by other investigators with antibodies in use in our laboratory.

**Cell lines**
The breast and colon adenocarcinoma cell lines (MCF7, MDA-MB-231, Caco-2) and the normal fibroblasts (MRC5 and CCD18-co) employed in this project so far were purchased from the American Tissue Culture Collection (ATCC). The pancreatic cancer cell lines to be used for testing of constructs targeting NNNN are available in the lab and have been authenticated by sequencing. Additional cell lines for the project will be obtained from ATCC or from the National Cancer Institute through the RAS Initiative. All our cell lines are authenticated periodically at the University of Arizona Genetics Core facility by Short Tandem Repeat (STR) profiling. Our cell cultures are continuously monitored for doubling times and morphology, and they are tested periodically for contamination from mycoplasma and bacteria using standard detection kits. Each culture is passaged less than 20 times. We typically assess the quality of commercially obtained reagents for cell-based assays (e.g., MTT, 2',7'-dichlorodihydrofluorescein) by NMR spectroscopy and/or liquid chromatography/mass spectrometry (LC-MS).

1. <https://grants.nih.gov/policy/reproducibility/resources.htm#authentication> [↑](#footnote-ref-1)